Artificial intelligence for education: Knowledge and its assessment in AI-enabled learning ecologies

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Abstract

Abstract Over the past ten years, we have worked in a collaboration between educators and computer scientists at the University of Illinois to imagine futures for education in the context of what is loosely called “artificial intelligence.” Unhappy with the first generation of digital learning environments, our agenda has been to design alternatives and research their implementation. Our starting point has been to ask, what is the nature of machine intelligence, and what are its limits and potentials in education? This paper offers some tentative answers, first conceptually, and then practically in an overview of the results of a number of experimental implementations documented in greater detail elsewhere. Our key finding is that artificial intelligence—in the context of the practices of electronic computing developing over the past three quarters of a century—will never in any sense “take over” the role of teacher, because how it works and what it does are so profoundly different from human intelligence. However, within the limits that we describe in this paper, it offers the potential to transform education in ways that—counterintuitively perhaps—make education more human, not less.